and steam, which again, according to the before-considered equation, are able to revert into 00% and H.
Methane and steam likewise react and (vide Fischer, p. 205) according to the equation CHi+H20 = CO + 6H. The same author gives (p. 204) the following results of experiments :—
Methane with 2 volumes steam heated to 954° to 1054°, and the same with great excess of steam, gave from separation of carbon :—
OOa
O . CO H .
CH4
N .
1.
1*2 per cent.
0-5
2-8 48-8 43-5
3-2
2.
5*0 per cent.
9-4 „
47-1 „ 37-3
1-2 „
One perceives in .all examples that the changes only result partially, and that they show smaller values, the smaller the amounts of the hydrocarbons are. It therefore results that producer gases cannot be subjected to great changes in their composition from the influences which high temperatures in the producer or regenerator chambers can bring to bear if they contain little C02 and little steam, and likewise not too large quantities of hydrocarbons.
Lastly, steam can be split up into its constituents by means of heating alone. Nevertheless this only occurs at such high- temperatures that this reaction is practically without importance in gas firing.